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WEST Search History

DATE: Wednesday, May 07, 2003

Set Name side by side	Query	Hit Count	Set Name result set
	DB=USPT; PLUR=YES; OP=OR		
L18	"thr ala ala xaa lys"	0	L18
L17	cam same (arg or arginine) same (lys or lysine)	16	L17
L16	cam same (arg or arginine) same (lys or lysine) same (substitut$ or replac$ or insert$)	2	L16
L15	"thr ala ala lys lys"	0	L15
L14	$taakkar$ or ?taakkar?	0	L14
L13	$taarkar$ or ?taarkar?	0	L13
L12	$fltaarkarag$ or ?fltaarkarag?	0	L12
L11	L10 and calmodul$	0	L11
L10	$aarka$ or ?aarka?	33	L10
L9	calmodul$ same (arg or arginine) same (lys or lysine) same (substitut$ or replac$ or insert$)	4	L9
L8	calmodul$ same (arg or arginine) same (lys or lysine)	30	L8
L7	calmodul$ same (arg or arginine) or (lys or lysine)	301135	L7
L6	calmodul$ same (arg or lys or arginine or lysine) same 74	4	L6
L5	L4 and 74	112	L5
L4	calmodul$ same (arg or lys or arginine or lysine)	242	L4
L3	L2 and calmodul$	9	L3
L2	"ala ala arg lys"	164	L2
L1	"thr ala ala arg lys"	0	L1

END OF SEARCH HISTORY

WEST Search History

DATE: Wednesday, May 07, 2003

Set Name side by side	Query	Hit Count	Set Name result set
	DB=USPT; PLUR=YES; OP=OR		
L24	"SIMONETTI; LUCIE"	0	L24
L23	"BERNARD; DOMINIQUE"	4	L23
L22	"MEHUL; BRUNO"	0	L22
L21	L20	31	L21
L20	L19 and l2	31	L20
L19	@PY <= 1999	6462803	L19
L18	"thr ala ala xaa lys"	0	L18
L17	cam same (arg or arginine) same (lys or lysine)	16	L17
L16	cam same (arg or arginine) same (lys or lysine) same (substitut$ or replac$ or insert$)	2	L16
L15	"thr ala ala lys lys"	0	L15
L14	$taakkar$ or ?taakkar?	0	L14
L13	$taarkar$ or ?taarkar?	0	L13
L12	$fltaarkarag$ or ?fltaarkarag?	0	L12
L11	L10 and calmodul$	0	L11
L10	$aarka$ or ?aarka?	33	L10
L9	calmodul$ same (arg or arginine) same (lys or lysine) same (substitut$ or replac$ or insert$)	4	L9
L8	calmodul$ same (arg or arginine) same (lys or lysine)	30	L8
L7	calmodul$ same (arg or arginine) or (lys or lysine)	301135	L7
L6	calmodul$ same (arg or lys or arginine or lysine) same 74	4	L6
L5	L4 and 74	112	L5
L4	calmodul$ same (arg or lys or arginine or lysine)	242	L4
L3	L2 and calmodul$	9	L3
L2	"ala ala arg lys"	164	L2
L1	"thr ala ala arg lys"	0	L1

END OF SEARCH HISTORY

Earliest reference is a journal article (2000).

=> s qefltaarkarag/sqsp
L4 4 QEFLTAARKARAG/SQSP

=> s taarkara/sqsp
L5 5 TAARKARA/SQSP

No prior art.

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=> s l5
L6 4 L5

=> d l6 all 1-4

L6 ANSWER 1 OF 4 CAPLUS COPYRIGHT 2003 ACS
AN 2003:112150 CAPLUS
DN 138:131969
TI Generation and initial analysis of more than 15,000 full-length human and mouse cDNA sequences
AU Strausberg, Robert L.; Feingold, Elise A.; Grouse, Lynette H.; Derge, Jeffery G.; Klausner, Richard D.; Collins, Francis S.; Wagner, Lukas; Shenmen, Carolyn M.; Schuler, Gregory D.; Altschul, Stephen F.; Zeeberg, Barry; Buetow, Kenneth H.; Schaefer, Carl F.; Bhat, Narayan K.; Hopkins, Ralph F.; Jordan, Heather; Moore, Troy; Max, Steve I.; Wang, Jun; Hsieh, Florence; Diatchenko, Luda; Marusina, Kate; Farmer, Andrew A.; Rubin, Gerald M.; Hong, Ling; Stapleton, Mark; Soares, M. Bento; Bonaldo, Maria F.; Casavant, Tom L.; Scheetz, Todd E.; Brownstein, Michael J.; Usdin, Ted B.; Toshiyuki, Shiraki; Carninci, Piero; Prange, Christa; Raha, Sam S.; Loquellano, Naomi A.; Peters, Garrick J.; Abramson, Rick D.; Mullahy, Sara J.; Bosak, Stephanie A.; McEwan, Paul J.; McKernan, Kevin J.; Malek, Joel A.; Gunaratne, Preethi H.; Richards, Stephen; Worley, Kim C.; Hale, Sarah; Garcia, Angela M.; Gay, Laura J.; Hulyk, Stephen W.; Villalon, Debbie K.; Muzny, Donna M.; Sodergren, Erica J.; Lu, Xiuhua; Gibbs, Richard A.;

Fahey, Jessica; Helton, Erin; Ketteman, Mark; Madan, Anuradha; Rodrigues, Stephanie; Sanchez, Amy; Whiting, Michelle; Madan, Anup; Young, Alice C.; Shevchenko, Yuriy; Bouffard, Gerard G.; Blakesley, Robert W.; Touchman, Jeffrey W.; Green, Eric D.; Dickson, Mark C.; Rodriguez, Alex C.; Grimwood, Jane; Schmutz, Jeremy; Myers, Richard M.; Butterfield, Yaron S. N.; Krzywinski, Martin I.; Skalska, Ursula; Smailus, Duane E.; Schnerch, Angelique; Schein, Jacqueline E.; Jones, Steven J. M.; Marra, Marco A.

CS National Cancer Institute, NIH, Bethesda, MD, 20892-2580, USA

SO Proceedings of the National Academy of Sciences of the United States of America (2002), 99(26), 16899-16903
CODEN: PNASA6; ISSN: 0027-8424

PB National Academy of Sciences

DT Journal

LA English

CC 3-3 (Biochemical Genetics)
Section cross-reference(s): 6, 13

AB The National Institutes of Health Mammalian Gene Collection (MGC) Program is a multiinstitutional effort to identify and sequence a cDNA clone contg. a complete ORF for each human and mouse gene. ESTs were generated from libraries enriched for full-length cDNAs and analyzed to identify candidate full-ORF clones, which then were sequenced to high accuracy. The MGC has currently sequenced and verified the full ORF for a nonredundant set of >9000 human and >6000 mouse genes. Candidate full-ORF clones for an addnl. 7800 human and 3500 mouse genes also have been identified. All MGC sequences and clones are available without restriction through public databases and clone distribution networks. [This abstr. record is one of eleven records for this document necessitated by the large no. of index entries required to fully index the document and publication system constraints.].

ST cDNA protein sequence mouse human

IT Human
Mouse
Protein sequences
cDNA library
cDNA sequences
(generation and initial anal. of more than 15,000 full-length human and mouse cDNA sequences)

IT Proteins
cDNA
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(generation and initial anal. of more than 15,000 full-length human and mouse cDNA sequences)

IT Gene, animal
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(open reading frame; generation and initial anal. of more than 15,000 full-length human and mouse cDNA sequences)

IT 479789-59-8 479789-60-1 479789-64-5 479789-65-6 479789-66-7
(Biological study)
(nucleotide sequence; generation and initial anal. of more than 15,000 full-length human and mouse cDNA sequences)

L6 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2003 ACS

AN 2002:978007 CAPLUS

DN 138:50807

TI In silico screening for phenotype-associated expressed sequences and its application to differentially expressed markers for tumor-associated antigens in human and hyperosmotic stress in Arabidopsis

IN Baranova, A. V.; Yankovsky, N. K.; Kozlov, A. P.; Lobashev, A. V.; Krukovskaya, L. L.

PA Biomedical Center, Russia

SO PCT Int. Appl., 516 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C12Q
CC 3-1 (Biochemical Genetics)
Section cross-reference(s): 11, 14, 15, 63
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2002103028	A2	20021227	WO 2002-IB4189	20020530

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRAI US 2001-293999P P 20010530
US 2001-330457P P 20011022
US 2002-357144P P 20020219

AB The present invention provides methods for detg. whether a nucleic acid sequence is a marker for a phenotype or cell type of interest. A database of expressed sequence tag sequences (ESTs) from the species is provided and said ESTs are placed in groups termed clusters based on homol. of ESTs within each cluster. The total no. of ESTs within said cluster are detd. for each cluster. The clusters are ordered sequentially based on the no. of ESTs in each cluster and ordered clusters divided into subranges based on the no. of ESTs per cluster. For each cluster subrange obtained, the no. of ESTs within said cluster which are expressed in said predetd. cell type of interest are detd., calcg. according to a normal distribution the no. of clusters in each subrange expected to contain a predetd. threshold percentage of ESTs expressed in said cell type of interest. Said threshold percentage is a percentage from about 10% to about 100%. The no. of clusters is detd. in each subrange obsd. to contain said predetd. threshold percentage of ESTs expressed in said predetd. cell type. Subranges are identified having an obsd. no. of clusters that meet said predetd. threshold percentage greater than the no. of clusters expected to meet said predetd. threshold percentage for the subrange according to normal distribution. If the percentage of ESTs expressed in said cell type of interest in a cluster identified is equal to or greater than said predetd. threshold percentage, the cluster contains a nucleic acid that is a marker for the cell type of interest. The method if this invention is applied to (1) ESTs encoding human tumor-assocd. antigens (esp. colon cancer) and (2) markers for hyperosmotic stress (high salt conditions) in Arabidopsis thaliana.

ST gene expression marker screening phenotype cluster analysis; EST marker screening phenotype cluster analysis; tumor assocd antigen cDNA sequence screening cancer human; osmotic stress gene expression screening Arabidopsis

IT Gene, animal
RL: ADV (Adverse effect, including toxicity); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(GUCY2C; in silico screening for phenotype-assocd. expressed sequences and its application to differentially expressed markers for tumor-assocd. antigens in human and hyperosmotic stress in Arabidopsis)

IT Statistical analysis
(Monte Carlo; in silico screening for phenotype-assocd. expressed sequences and its application to differentially expressed markers for tumor-assocd. antigens in human and hyperosmotic stress in Arabidopsis)

IT Gene, animal
RL: ADV (Adverse effect, including toxicity); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(POM36; in silico screening for phenotype-assocd. expressed sequences and its application to differentially expressed markers for tumor-assocd. antigens in human and hyperosmotic stress in Arabidopsis)
IT Gene, animal
RL: ADV (Adverse effect, including toxicity); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(POM37; in silico screening for phenotype-assocd. expressed sequences and its application to differentially expressed markers for tumor-assocd. antigens in human and hyperosmotic stress in Arabidopsis)
IT Gene, animal
RL: ADV (Adverse effect, including toxicity); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(POM63; in silico screening for phenotype-assocd. expressed sequences and its application to differentially expressed markers for tumor-assocd. antigens in human and hyperosmotic stress in Arabidopsis)
IT Gene, animal
RL: ADV (Adverse effect, including toxicity); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(POM6; in silico screening for phenotype-assocd. expressed sequences and its application to differentially expressed markers for tumor-assocd. antigens in human and hyperosmotic stress in Arabidopsis)
IT Diagnosis
(cancer; in silico screening for phenotype-assocd. expressed sequences and its application to differentially expressed markers for tumor-assocd. antigens in human and hyperosmotic stress in Arabidopsis)
IT Mammary gland
Pancreas, neoplasm
(carcinoma; in silico screening for phenotype-assocd. expressed sequences and its application to differentially expressed markers for tumor-assocd. antigens in human and hyperosmotic stress in Arabidopsis)
IT Intestine, neoplasm
(colon; in silico screening for phenotype-assocd. expressed sequences and its application to differentially expressed markers for tumor-assocd. antigens in human and hyperosmotic stress in Arabidopsis)
IT Gene
RL: ANT (Analyte); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study)
(expression; in silico screening for phenotype-assocd. expressed sequences and its application to differentially expressed markers for tumor-assocd. antigens in human and hyperosmotic stress in Arabidopsis)
IT Arabidopsis thaliana
Cluster analysis
Computer application
Gene expression profiles, animal
Gene expression profiles, plant
Human
Lung, neoplasm
Neoplasm
Ovary, neoplasm
Protein sequences
Testis, neoplasm
Tumor markers
cDNA sequences
(in silico screening for phenotype-assocd. expressed sequences and its application to differentially expressed markers for tumor-assocd. antigens in human and hyperosmotic stress in Arabidopsis)
IT EST (expressed sequence tag)
RL: ANT (Analyte); BSU (Biological study, unclassified); BUU (Biological use, unclassified); DGN (Diagnostic use); PRP (Properties); THU

(Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(in silico screening for phenotype-assocd. expressed sequences and its application to differentially expressed markers for tumor-assocd. antigens in human and hyperosmotic stress in Arabidopsis)

IT Antibodies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(in silico screening for phenotype-assocd. expressed sequences and its application to differentially expressed markers for tumor-assocd. antigens in human and hyperosmotic stress in Arabidopsis)

IT Gamete and Germ cell
(neoplasm; in silico screening for phenotype-assocd. expressed sequences and its application to differentially expressed markers for tumor-assocd. antigens in human and hyperosmotic stress in Arabidopsis)

IT Stress, plant
(osmotic; in silico screening for phenotype-assocd. expressed sequences and its application to differentially expressed markers for tumor-assocd. antigens in human and hyperosmotic stress in Arabidopsis)

IT Double stranded RNA
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(small interfering; in silico screening for phenotype-assocd. expressed sequences and its application to differentially expressed markers for tumor-assocd. antigens in human and hyperosmotic stress in Arabidopsis)

IT Head
Neck, anatomical
(squamous cell carcinoma; in silico screening for phenotype-assocd. expressed sequences and its application to differentially expressed markers for tumor-assocd. antigens in human and hyperosmotic stress in Arabidopsis)

IT Antigens
Proteins
RL: ANT (Analyte); BSU (Biological study, unclassified); BUU (Biological use, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(tumor-assocd.; in silico screening for phenotype-assocd. expressed sequences and its application to differentially expressed markers for tumor-assocd. antigens in human and hyperosmotic stress in Arabidopsis)

IT Vaccines
(tumor; in silico screening for phenotype-assocd. expressed sequences and its application to differentially expressed markers for tumor-assocd. antigens in human and hyperosmotic stress in Arabidopsis)

IT Antitumor agents
(vaccines; in silico screening for phenotype-assocd. expressed sequences and its application to differentially expressed markers for tumor-assocd. antigens in human and hyperosmotic stress in Arabidopsis)

IT 9054-75-5, Guanylate cyclase
RL: ADV (Adverse effect, including toxicity); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(2C; in silico screening for phenotype-assocd. expressed sequences and its application to differentially expressed markers for tumor-assocd. antigens in human and hyperosmotic stress in Arabidopsis)

IT 479206-99-0 479207-00-6 479207-01-7 479207-02-8 479207-03-9 479207-08-4 479207-09-5 479207-10-8 479207-11-9 479207-12-0

479299-40-6 479299-42-8
RL: ANT (Analyte); BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(nucleotide sequence; in silico screening for phenotype-assocd. expressed sequences and its application to differentially expressed markers for tumor-assocd. antigens in human and hyperosmotic stress in

Arabidopsis)
IT 479321-65-8 479321-66-9 479321-67-0 479321-68-1 479321-69-2
479321-70-5 479321-71-6 479321-72-7
RL: PRP (Properties)
(unclaimed nucleotide sequence; in silico screening for phenotype-assocd. expressed sequences and its application to differentially expressed markers for tumor-assocd. antigens in human and hyperosmotic stress in Arabidopsis)

L6 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2003 ACS
AN 2001:78523 CAPLUS
DN 134:143576
TI Calmodulin-like skin protein CLSP of human and cDNA and their use in cosmetics and pharmaceticals
IN Mehul, Bruno; Bernard, Dominique; Simonetti, Lucie
PA L'Oreal, Fr.
SO PCT Int. Appl., 38 pp.
CODEN: PIXXD2
DT Patent
LA French
IC ICM C12N015-12
ICS C07K014-47; C07K016-18; A61K038-17; A61K048-00
CC 6-3 (General Biochemistry)
Section cross-reference(s): 1, 3, 13, 62
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2001007604	A1	20010201	WO 2000-FR1048	20000420
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
FR 2796646	A1	20010126	FR 1999-9615	19990723
EP 1204744	A1	20020515	EP 2000-922701	20000420
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				
JP 2003505081	T2	20030212	JP 2001-512873	20000420
PRAI FR 1999-9615	A	19990723		
WO 2000-FR1048	W	20000420		

AB The invention concerns human protein CLSP (calmodulin-like skin protein) and cDNA encoding it as well as use of the protein or cDNA in pharmaceuticals or cosmetics. The protein or cDNA may be used to treat dry skin, hyperkeratosis, parakeratosis, psoriasis, ichthyosis, and neoplasia. CLSP exhibited 4 calcium binding sites and was shown to bind calcium. The protein was shown by affinity chromatog. to assoc. with transglutaminase 3, galectin 7, annexin 2, MRP14, heparanase III, heat shock protein 27, SCCE, and ribosomal protein L9.
ST sequence human calmodulin like skin protein CLSP cDNA
IT Proteins, specific or class
RL: BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(CLSP; calmodulin-like skin protein CLSP of human and cDNA and their use in cosmetics and pharmaceticals)
IT Heat-shock proteins
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)

(HSP 27, CLSP binding to; calmodulin-like skin protein CLSP of human and cDNA and their use in cosmetics and pharmaceticals)

IT Annexins
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(II, CLSP binding to; calmodulin-like skin protein CLSP of human and cDNA and their use in cosmetics and pharmaceticals)

IT Ribosomal proteins
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(L9, CLSP binding to; calmodulin-like skin protein CLSP of human and cDNA and their use in cosmetics and pharmaceticals)

IT Proteins, specific or class
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(MRP14, CLSP binding to; calmodulin-like skin protein CLSP of human and cDNA and their use in cosmetics and pharmaceticals)

IT Antitumor agents
Cosmetics
Protein sequences
Psoriasis
cDNA sequences
(calmodulin-like skin protein CLSP of human and cDNA and their use in cosmetics and pharmaceticals)

IT Skin, disease
(dry; calmodulin-like skin protein CLSP of human and cDNA and their use in cosmetics and pharmaceticals)

IT Skin
(epidermis, proliferation and differentiation, CLSP for regulation of; calmodulin-like skin protein CLSP of human and cDNA and their use in cosmetics and pharmaceticals)

IT Agglutinins and Lectins
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(galectin-7, CLSP binding to; calmodulin-like skin protein CLSP of human and cDNA and their use in cosmetics and pharmaceticals)

IT Keratosis
(hyperkeratosis; calmodulin-like skin protein CLSP of human and cDNA and their use in cosmetics and pharmaceticals)

IT Skin, disease
(ichtyosis; calmodulin-like skin protein CLSP of human and cDNA and their use in cosmetics and pharmaceticals)

IT Keratosis
(parakeratosis; calmodulin-like skin protein CLSP of human and cDNA and their use in cosmetics and pharmaceticals)

IT Skin
(stratum corneum, CLSP of; calmodulin-like skin protein CLSP of human and cDNA and their use in cosmetics and pharmaceticals)

IT 80146-85-6, Transglutaminase 89800-66-8, Heparanase
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(CLSP binding to; calmodulin-like skin protein CLSP of human and cDNA and their use in cosmetics and pharmaceticals)

IT 282122-08-1
RL: BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(amino acid sequence; calmodulin-like skin protein CLSP of human and cDNA and their use in cosmetics and pharmaceticals)

IT 263688-53-5
RL: BUU (Biological use, unclassified); PRP (Properties); BIOL (Biological study); USES (Uses)

(nucleotide sequence; calmodulin-like skin protein CLSP of human and cDNA and their use in cosmetics and pharmaceticals)
IT 322774-15-2 322774-16-3 322774-17-4 322774-18-5 322774-19-6
RL: PRP (Properties)
(unclaimed sequence; calmodulin-like skin protein CLSP of human and cDNA and their use in cosmetics and pharmaceticals)
RE.CNT 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Anon; DATABASE EMBL/HINXTON
(2) Corley, N; US 6046315 A 2000 CAPLUS
(3) Goli, S; US 5763220 A 1998 CAPLUS
(4) Hitomi, J; EP 0731166 A 1996 CAPLUS
(5) Naik, U; JOURNAL OF BIOLOGICAL CHEMISTRY 1997, V272(8), P4651 CAPLUS
(6) Oreal; FR 2761363 A 1998 CAPLUS
(7) Peterson, L; CLINICAL RESEARCH 1982, V30(1), PA159
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(9) Puszkin, E; J BIOL CHEM 1985, V260(29), P16012 CAPLUS
(10) Schafer, B; TIBS TRENDS IN BIOCHEMICAL SCIENCES 1996, V21(4), P134 MEDLINE
(11) Wilkinson, M; J CELL SCI 1988, V91(Pt2), P221

L6 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2003 ACS
AN 2000:302887 CAPLUS
DN 133:101054
TI Identification and cloning of a new calmodulin-like protein from human epidermis
AU Mehul, Bruno; Bernard, Dominique; Simonetti, Lucie; Bernard, Marie Alix; Schmidt, Rainer
CS Life Sciences Research, Centre Charles Zviak, L'Oreal, Clichy, 92583, Fr.
SO Journal of Biological Chemistry (2000), 275(17), 12841-12847
CODEN: JBCHA3; ISSN: 0021-9258
PB American Society for Biochemistry and Molecular Biology
DT Journal
LA English
CC 6-3 (General Biochemistry)
Section cross-reference(s): 3, 13
AB After sepg. by two-dimensional gel electrophoresis an ext. of total proteins from human stratum corneum, two spots were extd. and analyzed for their peptide sequence. The resulting internal protein sequences provided evidence for the identification of a new calcium-binding protein. Cloning of the corresponding full-length cDNA was achieved by reverse transcriptase-polymerase chain reaction using two keratinocyte libraries, one from proliferating cultured keratinocytes and one from differentiated keratinocytes of reconstructed human epidermis. The cDNA had an open reading frame encoding a new calcium-binding protein of 146 amino acids, a member of the calmodulin family. We named this new protein calmodulin-like skin protein (CLSP), since reverse transcriptase-polymerase chain reaction studies of CLSP expression in 10 different human tissues revealed that this protein was particularly abundant in the epidermis where its expression is directly related to keratinocyte differentiation. Expression of the cloned cDNA in Escherichia coli yielded a recombinant protein which allowed its further characterization. RCLSP is able to bind calcium, and similarly to calmodulin, exposes thereafter hydrophobic parts which most likely interact with target proteins. Epidermal proteins retained by CaM affinity column are quant. and qual. distinct from those of the rCLSP column. Sequencing of a rCLSP affinity purified protein revealed 100% identity with transglutaminase 3, a key enzyme in terminal differentiation, indicating an important role of CLSP in this process.
ST epidermis calcium binding protein CLSP cDNA sequence; keratinocyte differentiation calmodulin like protein CLSP
IT Calcium-binding proteins
RL: BPR (Biological process); BSU (Biological study, unclassified); PRP

(Properties); BIOL (Biological study); PROC (Process)
(CLSP (calmodulin-like skin protein); identification and cloning of new calcium-binding calmodulin-like protein CLSP from human epidermis and its role in keratinocyte differentiation)
IT Skin
(epidermis; identification and cloning of new calcium-binding calmodulin-like protein CLSP from human epidermis and its role in keratinocyte differentiation)
IT Cell differentiation
Protein sequences
cDNA sequences
(identification and cloning of new calcium-binding calmodulin-like protein CLSP from human epidermis and its role in keratinocyte differentiation)
IT Skin
(keratinocyte; identification and cloning of new calcium-binding calmodulin-like protein CLSP from human epidermis and its role in keratinocyte differentiation)
IT Skin
(stratum corneum; identification and cloning of new calcium-binding calmodulin-like protein CLSP from human epidermis and its role in keratinocyte differentiation)
IT 282122-08-1
RL: BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); PROC (Process)
(amino acid sequence; identification and cloning of new calcium-binding calmodulin-like protein CLSP from human epidermis and its role in keratinocyte differentiation)
IT 7440-70-2, Calcium, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(identification and cloning of new calcium-binding calmodulin-like protein CLSP from human epidermis and its role in keratinocyte differentiation)
IT 263688-53-5, GenBank AF172852
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(nucleotide sequence; identification and cloning of new calcium-binding calmodulin-like protein CLSP from human epidermis and its role in keratinocyte differentiation)
RE.CNT 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD
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L3 3 L2

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L3 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2003 ACS
AN 2002:978007 CAPLUS
DN 138:50807
TI In silico screening for phenotype-associated expressed sequences and its application to differentially expressed markers for tumor-associated antigens in human and hyperosmotic stress in Arabidopsis
IN Baranova, A. V.; Yankovsky, N. K.; Kozlov, A. P.; Lobashev, A. V.; Krukovskaya, L. L.
PA Biomedical Center, Russia
SO PCT Int. Appl., 516 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C12Q
CC 3-1 (Biochemical Genetics)
Section cross-reference(s): 11, 14, 15, 63
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2002103028	A2	20021227	WO 2002-IB4189	20020530

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRAI US 2001-293999P P 20010530
US 2001-330457P P 20011022
US 2002-357144P P 20020219

AB The present invention provides methods for detg. whether a nucleic acid sequence is a marker for a phenotype or cell type of interest. A database of expressed sequence tag sequences (ESTs) from the species is provided and said ESTs are placed in groups termed clusters based on homol. of ESTs within each cluster. The total no. of ESTs within said cluster are detd. for each cluster. The clusters are ordered sequentially based on the no. of ESTs in each cluster and ordered clusters divided into subranges based on the no. of ESTs per cluster. For each cluster subrange obtained, the no. of ESTs within said cluster which are expressed in said predetd. cell type of interest are detd., calcg. according to a normal distribution the no. of clusters in each subrange expected to contain a predetd. threshold percentage of ESTs expressed in said cell type of interest. Said threshold percentage is a percentage from about 10% to about 100%. The no. of clusters is detd. in each subrange obsd. to contain said predetd. threshold percentage of ESTs expressed in said predetd. cell type. Subranges are identified having an obsd. no. of clusters that meet said predetd. threshold percentage greater than the no. of clusters expected to meet said predetd. threshold percentage for the subrange according to normal distribution. If the percentage of ESTs expressed in said cell type of interest in a cluster identified is equal to or greater than said predetd. threshold percentage, the cluster contains a nucleic acid that is a marker for the cell type of interest. The method if this invention is applied to (1) ESTs encoding human tumor-assocd. antigens (esp. colon cancer) and (2) markers for hyperosmotic stress (high salt conditions) in Arabidopsis thaliana.

ST gene expression marker screening phenotype cluster analysis; EST marker screening phenotype cluster analysis; tumor assocd antigen cDNA sequence screening cancer human; osmotic stress gene expression screening Arabidopsis

IT Gene, animal
RL: ADV (Adverse effect, including toxicity); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(GUCY2C; in silico screening for phenotype-assocd. expressed sequences and its application to differentially expressed markers for tumor-assocd. antigens in human and hyperosmotic stress in Arabidopsis)

IT Statistical analysis
(Monte Carlo; in silico screening for phenotype-assocd. expressed sequences and its application to differentially expressed markers for tumor-assocd. antigens in human and hyperosmotic stress in Arabidopsis)

IT Gene, animal
RL: ADV (Adverse effect, including toxicity); DGN (Diagnostic use); PRP

(Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(POM36; in silico screening for phenotype-assocd. expressed sequences and its application to differentially expressed markers for tumor-assocd. antigens in human and hyperosmotic stress in Arabidopsis)
IT Gene, animal
RL: ADV (Adverse effect, including toxicity); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(POM37; in silico screening for phenotype-assocd. expressed sequences and its application to differentially expressed markers for tumor-assocd. antigens in human and hyperosmotic stress in Arabidopsis)
IT Gene, animal
RL: ADV (Adverse effect, including toxicity); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(POM63; in silico screening for phenotype-assocd. expressed sequences and its application to differentially expressed markers for tumor-assocd. antigens in human and hyperosmotic stress in Arabidopsis)
IT Gene, animal
RL: ADV (Adverse effect, including toxicity); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(POM6; in silico screening for phenotype-assocd. expressed sequences and its application to differentially expressed markers for tumor-assocd. antigens in human and hyperosmotic stress in Arabidopsis)
IT Diagnosis
(cancer; in silico screening for phenotype-assocd. expressed sequences and its application to differentially expressed markers for tumor-assocd. antigens in human and hyperosmotic stress in Arabidopsis)
IT Mammary gland
Pancreas, neoplasm
(carcinoma; in silico screening for phenotype-assocd. expressed sequences and its application to differentially expressed markers for tumor-assocd. antigens in human and hyperosmotic stress in Arabidopsis)
IT Intestine, neoplasm
(colon; in silico screening for phenotype-assocd. expressed sequences and its application to differentially expressed markers for tumor-assocd. antigens in human and hyperosmotic stress in Arabidopsis)
IT Gene
RL: ANT (Analyte); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study)
(expression; in silico screening for phenotype-assocd. expressed sequences and its application to differentially expressed markers for tumor-assocd. antigens in human and hyperosmotic stress in Arabidopsis)
IT Arabidopsis thaliana
Cluster analysis
Computer application
Gene expression profiles, animal
Gene expression profiles, plant
Human
Lung, neoplasm
Neoplasm
Ovary, neoplasm
Protein sequences
Testis, neoplasm
Tumor markers
cDNA sequences
(in silico screening for phenotype-assocd. expressed sequences and its application to differentially expressed markers for tumor-assocd.

antigens in human and hyperosmotic stress in Arabidopsis)
IT EST (expressed sequence tag)
RL: ANT (Analyte); BSU (Biological study, unclassified); BUU (Biological use, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(in silico screening for phenotype-assocd. expressed sequences and its application to differentially expressed markers for tumor-assocd. antigens in human and hyperosmotic stress in Arabidopsis)
IT Antibodies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(in silico screening for phenotype-assocd. expressed sequences and its application to differentially expressed markers for tumor-assocd. antigens in human and hyperosmotic stress in Arabidopsis)
IT Gamete and Germ cell
(neoplasm; in silico screening for phenotype-assocd. expressed sequences and its application to differentially expressed markers for tumor-assocd. antigens in human and hyperosmotic stress in Arabidopsis)
IT Stress, plant
(osmotic; in silico screening for phenotype-assocd. expressed sequences and its application to differentially expressed markers for tumor-assocd. antigens in human and hyperosmotic stress in Arabidopsis)
IT Double stranded RNA
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(small interfering; in silico screening for phenotype-assocd. expressed sequences and its application to differentially expressed markers for tumor-assocd. antigens in human and hyperosmotic stress in Arabidopsis)
IT Head
Neck, anatomical
(squamous cell carcinoma; in silico screening for phenotype-assocd. expressed sequences and its application to differentially expressed markers for tumor-assocd. antigens in human and hyperosmotic stress in Arabidopsis)
IT Antigens
Proteins
RL: ANT (Analyte); BSU (Biological study, unclassified); BUU (Biological use, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(tumor-assocd.; in silico screening for phenotype-assocd. expressed sequences and its application to differentially expressed markers for tumor-assocd. antigens in human and hyperosmotic stress in Arabidopsis)
IT Vaccines
(tumor; in silico screening for phenotype-assocd. expressed sequences and its application to differentially expressed markers for tumor-assocd. antigens in human and hyperosmotic stress in Arabidopsis)
IT Antitumor agents
(vaccines; in silico screening for phenotype-assocd. expressed sequences and its application to differentially expressed markers for tumor-assocd. antigens in human and hyperosmotic stress in Arabidopsis)
IT 9054-75-5, Guanylate cyclase
RL: ADV (Adverse effect, including toxicity); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(2C; in silico screening for phenotype-assocd. expressed sequences and its application to differentially expressed markers for tumor-assocd. antigens in human and hyperosmotic stress in Arabidopsis)

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RL: ANT (Analyte); BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(amino acid sequence; in silico screening for phenotype-assocd. expressed sequences and its application to differentially expressed markers for tumor-assocd. antigens in human and hyperosmotic stress in Arabidopsis)
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479298-95-8 479298-97-0 479298-99-2 479299-01-9 479299-03-1
479299-04-2 479299-06-4 479299-07-5 479299-09-7 479299-11-1
479299-12-2 479299-15-5 479299-17-7 479299-19-9 479299-21-3
479299-23-5 479299-25-7 479299-26-8 479299-27-9 479299-29-1
479299-31-5 479299-33-7 479299-35-9 479299-36-0 479299-38-2
479299-40-6 479299-42-8
RL: ANT (Analyte); BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(nucleotide sequence; in silico screening for phenotype-assocd. expressed sequences and its application to differentially expressed markers for tumor-assocd. antigens in human and hyperosmotic stress in Arabidopsis)

IT 479321-65-8 479321-66-9 479321-67-0 479321-68-1 479321-69-2
479321-70-5 479321-71-6 479321-72-7
RL: PRP (Properties)
(unclaimed nucleotide sequence; in silico screening for phenotype-assocd. expressed sequences and its application to differentially expressed markers for tumor-assocd. antigens in human and hyperosmotic stress in Arabidopsis)

L3 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2003 ACS
AN 2001:78523 CAPLUS
DN 134:143576
TI Calmodulin-like skin protein CLSP of human and cDNA and their use in cosmetics and pharmaceticals
IN Mehul, Bruno; Bernard, Dominique; Simonetti, Lucie
PA L'Oreal, Fr.
SO PCT Int. Appl., 38 pp.

CODEN: PIXXD2
DT Patent
LA French
IC ICM C12N015-12
ICS C07K014-47; C07K016-18; A61K038-17; A61K048-00
CC 6-3 (General Biochemistry)
Section cross-reference(s): 1, 3, 13, 62
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2001007604	A1	20010201	WO 2000-FR1048	20000420
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
FR 2796646	A1	20010126	FR 1999-9615	19990723
EP 1204744	A1	20020515	EP 2000-922701	20000420
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				
JP 2003505081	T2	20030212	JP 2001-512873	20000420
PRAI FR 1999-9615	A	19990723		
WO 2000-FR1048	W	20000420		

AB The invention concerns human protein CLSP (calmodulin-like skin protein) and cDNA encoding it as well as use of the protein or cDNA in pharmaceuticals or cosmetics. The protein or cDNA may be used to treat dry skin, hyperkeratosis, parakeratosis, psoriasis, ichthyosis, and neoplasia. CLSP exhibited 4 calcium binding sites and was shown to bind calcium. The protein was shown by affinity chromatog. to assoc. with transglutaminase 3, galectin 7, annexin 2, MRP14, heparanase III, heat shock protein 27, SCCE, and ribosomal protein L9.

ST sequence human calmodulin like skin protein CLSP cDNA

IT Proteins, specific or class
RL: BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(CLSP; calmodulin-like skin protein CLSP of human and cDNA and their use in cosmetics and pharmaceticals)

IT Heat-shock proteins
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(HSP 27, CLSP binding to; calmodulin-like skin protein CLSP of human and cDNA and their use in cosmetics and pharmaceticals)

IT Annexins
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(II, CLSP binding to; calmodulin-like skin protein CLSP of human and cDNA and their use in cosmetics and pharmaceticals)

IT Ribosomal proteins
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(L9, CLSP binding to; calmodulin-like skin protein CLSP of human and

cDNA and their use in cosmetics and pharmaceticals)
IT Proteins, specific or class
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(MRP14, CLSP binding to; calmodulin-like skin protein CLSP of human and cDNA and their use in cosmetics and pharmaceticals)
IT Antitumor agents
Cosmetics
Protein sequences
Psoriasis
cDNA sequences
(calmodulin-like skin protein CLSP of human and cDNA and their use in cosmetics and pharmaceticals)
IT Skin, disease
(dry; calmodulin-like skin protein CLSP of human and cDNA and their use in cosmetics and pharmaceticals)
IT Skin
(epidermis, proliferation and differentiation, CLSP for regulation of; calmodulin-like skin protein CLSP of human and cDNA and their use in cosmetics and pharmaceticals)
IT Agglutinins and Lectins
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(galectin-7, CLSP binding to; calmodulin-like skin protein CLSP of human and cDNA and their use in cosmetics and pharmaceticals)
IT Keratosis
(hyperkeratosis; calmodulin-like skin protein CLSP of human and cDNA and their use in cosmetics and pharmaceticals)
IT Skin, disease
(ichtyosis; calmodulin-like skin protein CLSP of human and cDNA and their use in cosmetics and pharmaceticals)
IT Keratosis
(parakeratosis; calmodulin-like skin protein CLSP of human and cDNA and their use in cosmetics and pharmaceticals)
IT Skin
(stratum corneum, CLSP of; calmodulin-like skin protein CLSP of human and cDNA and their use in cosmetics and pharmaceticals)
IT 80146-85-6, Transglutaminase 89800-66-8, Heparanase
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(CLSP binding to; calmodulin-like skin protein CLSP of human and cDNA and their use in cosmetics and pharmaceticals)
IT 282122-08-1
RL: BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(amino acid sequence; calmodulin-like skin protein CLSP of human and cDNA and their use in cosmetics and pharmaceticals)
IT 263688-53-5
RL: BUU (Biological use, unclassified); PRP (Properties); BIOL (Biological study); USES (Uses)
(nucleotide sequence; calmodulin-like skin protein CLSP of human and cDNA and their use in cosmetics and pharmaceticals)
IT 322774-15-2 322774-16-3 322774-17-4 322774-18-5 322774-19-6
RL: PRP (Properties)
(unclaimed sequence; calmodulin-like skin protein CLSP of human and

cDNA and their use in cosmetics and pharmaceticals)
RE.CNT 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
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L3 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2003 ACS
AN 2000:302887 CAPLUS
DN 133:101054
TI Identification and cloning of a new calmodulin-like protein from human epidermis
AU Mehul, Bruno; Bernard, Dominique; Simonetti, Lucie; Bernard, Marie Alix; Schmidt, Rainer
CS Life Sciences Research, Centre Charles Zviak, L'Oreal, Clichy, 92583, Fr.
SO Journal of Biological Chemistry (2000), 275(17), 12841-12847
CODEN: JBCHA3; ISSN: 0021-9258
PB American Society for Biochemistry and Molecular Biology
DT Journal
LA English
CC 6-3 (General Biochemistry)
Section cross-reference(s): 3, 13
AB After sepg. by two-dimensional gel electrophoresis an ext. of total proteins from human stratum corneum, two spots were extd. and analyzed for their peptide sequence. The resulting internal protein sequences provided evidence for the identification of a new calcium-binding protein. Cloning of the corresponding full-length cDNA was achieved by reverse transcriptase-polymerase chain reaction using two keratinocyte libraries, one from proliferating cultured keratinocytes and one from differentiated keratinocytes of reconstructed human epidermis. The cDNA had an open reading frame encoding a new calcium-binding protein of 146 amino acids, a member of the calmodulin family. We named this new protein calmodulin-like skin protein (CLSP), since reverse transcriptase-polymerase chain reaction studies of CLSP expression in 10 different human tissues revealed that this protein was particularly abundant in the epidermis where its expression is directly related to keratinocyte differentiation. Expression of the cloned cDNA in Escherichia coli yielded a recombinant protein which allowed its further characterization. RCLSP is able to bind calcium, and similarly to calmodulin, exposes thereafter hydrophobic parts which most likely interact with target proteins. Epidermal proteins retained by CaM affinity column are quant. and qual. distinct from those of the rCLSP column. Sequencing of a rCLSP affinity purified protein revealed 100% identity with transglutaminase 3, a key enzyme in terminal differentiation, indicating an important role of CLSP in this process.
ST epidermis calcium binding protein CLSP cDNA sequence; keratinocyte differentiation calmodulin like protein CLSP
IT Calcium-binding proteins

RL: BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); PROC (Process)
(CLSP (calmodulin-like skin protein); identification and cloning of new calcium-binding calmodulin-like protein CLSP from human epidermis and its role in keratinocyte differentiation)
IT Skin
(epidermis; identification and cloning of new calcium-binding calmodulin-like protein CLSP from human epidermis and its role in keratinocyte differentiation)
IT Cell differentiation
Protein sequences
cDNA sequences
(identification and cloning of new calcium-binding calmodulin-like protein CLSP from human epidermis and its role in keratinocyte differentiation)
IT Skin
(keratinocyte; identification and cloning of new calcium-binding calmodulin-like protein CLSP from human epidermis and its role in keratinocyte differentiation)
IT Skin
(stratum corneum; identification and cloning of new calcium-binding calmodulin-like protein CLSP from human epidermis and its role in keratinocyte differentiation)
IT 282122-08-1
RL: BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); PROC (Process)
(amino acid sequence; identification and cloning of new calcium-binding calmodulin-like protein CLSP from human epidermis and its role in keratinocyte differentiation)
IT 7440-70-2, Calcium, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(identification and cloning of new calcium-binding calmodulin-like protein CLSP from human epidermis and its role in keratinocyte differentiation)
IT 263688-53-5, GenBank AF172852
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(nucleotide sequence; identification and cloning of new calcium-binding calmodulin-like protein CLSP from human epidermis and its role in keratinocyte differentiation)
RE.CNT 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
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DICTIONARY FILE UPDATES: 6 MAY 2003 HIGHEST RN 511508-58-0

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Experimental and calculated property data are now available. See HELP
PROPERTIES for more information. See STNote 27, Searching Properties
in the CAS Registry File, for complete details:
http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

=> e savdtdgngt/sqep
E1 1 SAVDRRTTGAQTDDNVM/SQEP
E2 1 SAVDSQRGEINTEQSKLY/SQEP
E3 0 --> SAVDTDGNGT/SQEP
E4 1
SAVDWAGWLLVVVLLGVTLAATVRKERDGTIVIRAEGKDAAIQVRVENGILVII
AIDMGS

WCDDSLTVELVTIDVGEEFVDVDLSCRNVDGVYLEVGRCGKDEGSRLRRSVIIRS
HADGD

LTGRGHKWLEGDSLRTHLTRVEGWVWINLVLILAVIAVVWLTVESVVTRVAVV
VVLLCLA

PVYA/SQEP

E5 1

SAVDWAGWLLVVVLLGVTLAATVRKERDGTTVIRAEGKDAATQVRVENGTCVI
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WCDDSLIYECVTIDQGEEPVDVDCSCRNVDGVYLEYGRCGKQEGSRTRRSVLIPS
HAQGD

LTGRGHKWLEGDSLRTHLTRVEGWVWKNKVLTLAVIAVVWLTVESVVTRVAV
VVVLLCLA

PVYA/SQEP

E6 1

SAVDWTGWLLVVVLIGVTLAATVRKERDGTTVIRAEGKDAATQVRVENGTCVI
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SHAQGD

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VVLLCLA

PVYA/SQEP

E7 1

SAVDWTGWLLVVVLLGVTLAATVRKERDGTTVIRAEGKDAATQVRVENGTCVI
LATDMGS

WCDDSLTYECVTIDQGEEPVDVDCSCRNVDGVYLEYGRCGKQEGSRTRRSVLIP
SHAQGD

LTGRGHKWLEGDSLRTHLTRVEGWVWKNKVLTLAVIAVVWLTVESVVTRVAV
VVVLLCLA

PVYA/SQEP

E8 1 SAVE/SQEP

E9 1 SAVEEMEAEEAAAK/SQEP

E10 1

SAVEFPPSLSHTTGTRPRTPILLQQENGYFIHTLWMGLALLGVLGDLSGQHRRPR
SPCQP

NFQQDKFLGRWFKRGLASNSSWLREKKAALSMCKSVVAPATDGGFNLTSTFLQ
EKTSVET

RTMLLQPRGVPSASLQLTGVPHWGQAHYSVSVVETDYDQYALLYTRASKGPGE
DFRMATL

YSRTQTPRAELKEKFTAFCK/SQEP

E11 1

SAVEFVYTDRFHLILGISVEFLCSLRSDATMESITACLHALQALLDVPWPRSKIGS
DQDS

GIELLNVLHRVILTRESPSIQLASLEVVRQIICAAQEHVKEKRRSAEVDDGAAEKE
TLPE

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GSRL
VSAALVILSELPAVCSPEGS/SQEP
E12 1
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VGNNRV

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SAPAFVQLDTKLSIFETGIKVVDLLAPYRRGGKIGLFGGAGVGKTVLIMELINNIA
KAHG
GVSVFGGVGERTREGNDLYM/SQEP

=> e MAGELTPEEE/sqep
E1 1
MAGELSQEALLDFLCQAGGRVRNAELLSHFKSFLRDPHVSPGQLQERRERFKGF
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VRQDPDGTKYVVLKRRYRDLLGEEGLQRPGPVDGKPRGHRRRDPEPQKPPAGA
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QSTGQPLP
EDLGDPAVACEKPERAAPAR/SQEP
E2 2
MAGELSWQSLQETLVLQGELDRETLLPLWQQRETLLADKSRIDVSQLQRVDSSG
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E3 0 --> MAGELTPEEE/SQEP
E4 1
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E/SQEP
E5 1
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E6 3
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E7 3
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PQEELD
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E8 1
MAGELVEFEEGTIGIALNLESNNVGVVLMGDGLMIQEGSLHATTELENRSSWVA
ECSLNI

QVTTELEGSVCLMEHLKTQHVSIPPRARIQYTFPQLFFYKPNLWWPNGMGKQSL
YNVSIT

VDVKGHGESDSWGQLFGFRKIESHIDSATGGRLFKVNGQPIFIRGGNWILSDCLL
LLSKE
RYKTDIKFHADMNLNMIRCW/SQEP
E9 1
MAGELVRCPSIPHKLENHHHFTDMRAFTTHLNHASSRFYGTAGRYFMQKITDDA
EIWKQV

VIKRFNEYLDVLQKNHDLNDQNARTARLFAAAMMGVQLACQTKVLPLDEKPLL
TGIEHCF

IDWLGQQPNKESYEDYKILKQASDFMQTNSMYFLNLETTYDAPPPFVSLGFVKK
GEEEDE
FYLYPAVFTEKLCKGFDKNK/SQEP
E10 3
MAGELVSFAVNKLWDLLSHEYTLFQGVEDQVAELKSDLNLLKSFLKDADAKKH
TSALVRY

CVEEIKDIVYDAEDVLETFVQKEKLGTTSGIRKHIKRLTCIVPDRREIALYIGHVSK
RIT

RVIRDMQSFGVQQMIVDDYMHPLRNREREIRRTFPKDNESGFVALEENVKKLVG
YFVEED
NYQVVSITGMGGLGKTTLAR/SQEP

E11 3
MAGELVSFGIKKLWDLLSQECEQFQGVEDQVTGLKRDLNLLSSFLKDADAKKH
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DVIRDMQSFGVQQAIVDGGYMQPQGDRQREMRQTFSKDYESDFVGLEVNVKKL
VGYLVDE
ENVQVVSITGMGGLGKTTLA/SQEP
E12 1
MAGELYFSGVTGAYDWGSVLDNIMAVKSIPIQKLQQKKQLINQKLQILGEFSQK
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LIENFNLESALKTKKADVSDSDVISVSVSENAPEISFSVNVLNTASKEILVYDAGF
NSLD

ETIGSDGSFTLRYYTSPTDYVEYTIDYSLIDTLKDIVNKINETQDYVKASIYYDGN
KYKL
MLAETSEENSTVETAPDLST/SQEP

=> s e4 or e5
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E/SQEP
15745 SQL=55
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(MAGELTPEEEAQYKKAFSAVDTDGNGTINAQELGAALKATGKNLSEAQLKKLI
SE/SQEP
AND SQL=55)
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SFQEFLTAARKARAGLEDLQVAFRAFDQDGDGHITVDELRRAMAGLGQPLPQEE
LDAMIREADV
DQDGRVNYEEFARMLAQE/SQEP
17218 SQL=146
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ELDAMIREAD
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(MAGELTPEEEAQYKKAFSAVDTDGNGTINAQELGAALKATGKNLSEAQLRKLI
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QEELDAMI
READVDQDGRVNYEEFARMLAQE/SQEP AND SQL=146)
L14 2
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SE)/SQEP
OR
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SEVDGDG

DGEISFQEFLTAARKARAGLEDLQVAFRAFDQDGDGHITVDELRRAMAGLGQPL
PQEELDAMIR
EADVDQDGRVNYEEFARMLAQE)/SQEP

=> e lisevdsdgd/sqep
E1 1
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LEAA

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APEG

TVKDIKEQEVYMGEIPLMTDNGTFVINGTERVIVSQLHRSPGVFFDSDKGKTHSS
GKVLY
NARIIPYRGSWLDFEFDPKD/SQEP
E2 1 LISETLATFGGL/SQEP
E3 0 --> LISEVDSDGD/SQEP
E4 1 LISEVLVKVMHEKAGLDAGG/SQEP
E5 2
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E6 1 LISFEEHVG/SQEP
E7 1 LISFEEHVGP/SQEP
E8 1 LISFEEHVGPSAAPK/SQEP
E9 1
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FIAVP

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RLLDTD

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CSEI
CGANHSFMPIVIESVSTNTF/SQEP
E10 1
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FIAVP

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RLLDTD

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SEI
CGANHSFMPIVIESVSTNTF/SQEP
E11 1
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IAVP

SLRLLYLMDEIHSPSLTLKAIGHQWYWSYEYSDFTKAEFDSYMMPQTEMSKEAF
RLLDTD

NHTTLPMNSFIRIIVTAADVLHSWTVPSLGIKTDATPGRLNQCSFLINRPGLFYGQ
CSEI
CGANHSFMPIVIESVSTNAF/SQEP
E12 1
LISFHDHALMIILMIMTVVAYMMGMLALNKHTNRFMLEGQMIEVAWTIVPAIIL
VFIAVP

SLRLLYLMDEIHKPALTLKAIGHQVYWSYEYSDFIKVEFDAYMMPQDESDKNMF
RLLDTD

NHTTLPMNSFIRIIVTAADVLHSWTIPSLGIKTDATPGRLNQCGFLINRPGLFYGQC
SEI
CGANHSFMPIVIESVSTNIF/SQEP

=> e dgeisfqefl/sqep
E1 2 DGEIDLKLLTKVLAPEHEVRE/SQEP
E2 1
DGEIEYSTLSEEIKGVETIHKQGIEKRSVLPVVKGILGGVLKGVKVVGKGASILTG
LAEI

VKNALKGQVMISRIQFDNHTPEELPTLEIEYSTLSEENEGVETSHKHGLEKRSVKK
VFKK

ILGGVIKGSKIVGNGASILGGLAKMLNKTIRDEVMISRIQFDNHTQEELPTLEIEYA
VLS
DENEGVETSHKQRLEKRAVL/SQEP
E3 0 --> DGEISFQEFL/SQEP
E4 1
DGEIVGAIDQGLLVLVPVEPEDTREHADKLLHKLLNYRVFSDEQGKMNLSLKDV
GGGLLL

VSQFTLAADTRSGMRPSFSTAAPPPLGAELFDYLLHKARGQCTDVASGRFGADM
QVH/SQ
EP
E5 1 DGEIVGEGYHQR/SQEP
E6 1 DGEKEHANAKK/SQEP
E7 1 DGEKEHANALK/SQEP
E8 1 DGEKF/SQEP
E9 1 DGEKFGDPLG/SQEP
E10 1 DGEKFGDPLGYEDVIPEADR/SQEP
E11 1
DGEKTLENNEENKDEKLILIDEFEVLANKFISRLPNIPSTPREFGLGKGEIMEIDVPF
GS

IFAYRHIGSIRQKEYRIVGLYRNDVLLLSTKSLVIQPRDILLVAGNPEILNAVYLQV
KSN

VGQFPAPFGKSIYLYIDMRLQNRKAMMRDVYQALFLHKHLKSYKLYIQVLHPTS
PKFYHK
FLALETESIEVNFDFYRKSF/SQEP
E12 1 DGELFHYIRKHGP/SQEP

=> e taarkaragl/sqep
E1 1
TAARGIIYGGPIKKLLPRKPADVKSGSFKTAAPFFFFLGTRTLTEFLFIIIQN'AAA'K
Q

PKRPSTDRINKLWYISTIEYYSAMKRNKLLIHTTAWMNYKGIMVSKRGQSQKSIF
SRTKT
GFGRNHISGCFLYPLPLRL/SQEP
E2 1
TAARHRRRRRAPPGPTSRRWPGAAGARWRPAADWRRGPGAGRGWRHGRAGR
SATARPPAA

AGRRASPAAAKEPPAMPGAARQDPAARHRAAAPGCRAAVRRDRDDGADTGRA
VAGRYSGP

PAPAGRTDRRRARRRAGGPGRSGGRGGGTVPSCGVPPGLAGDCATPGRWSRRP
CKAAGER

PYLEVPGFQPEESVMASGWA/SQEP

E3 0 --> TAARKARAGL/SQEP

E4 1 TAARLKALGDELHQR/SQEP

E5 1 TAARLYHFPHGGDVIDSPGVREFGLWHLEP/SQEP

E6 1

TAARMATTATSMPACVSSAKCWRRCARPPPRTSSSACACPPTSATPRVSAKASR
CRRPRR

SRASWTTCTSSPALRPPSAAPFISSRRWPSSRPTWPAKPVPSRRAWRSRCSSPGAS
TSPR

RPRPSSPEARPTSAA/SQEP

E7 1 TAARQSTNAYPDLRS/SQEP

E8 1

TAARRGRRRRLSILAAQALAEPSPFRFRISDDQGVTRLDAALLLRRGGSGAGDHA
GARLQ

RHPRLRRDARAGTGGDGDRLPDPGRGRHAGTLPGAAPVRRVAGLQPVPRLAGA
VPGGPAA

AALAAIVHPVQRTAADARRMAERAADAARALSQPDQRGAGAQGHRDRARRIRP
DRPVGAD

LVAGQPAGGGERHDLPGAGA/SQEP

E9 1

TAARRREKGTAARRRQKGTAARRRQEGTAARRRQKGTAARRRRGRRGGRGRR
RGRRKEEG

GGGKVGRGGGGGEKREKERKKEIGKKRKKNKSRKEMSPFTCSQPQEKHSSILQLG
ETYLIS

TAKIVLSRLGKTEQVELLLCEMFCY/SQEP

E10 1

TAARRRQKEEGKSQGDPQPEAPPKGDVQTIRWLFETCPMSELAEKQGSEVTDPT
AKAEAQ

SCTWMFKPQPVDRPVGSREQHLQVSQVPAGERQTDRHVFETEPLQASGRPCGRR
PVRYCS

RVEIPSGQVSRQKEVFQALEAGKKEEQEPRVIAGSIPAGSVHKFTWLFENCPMGS
LAAES

IQGGNLLEEQPMSPSGNRMQ/SQEP

E11 1

TAARRRQKGAAAAAETHGQAKAKSGWLKPYYFIELMESRKDITNQEELWKMKP
RRNLEED

DYLHKDTGETSMLKRPVLLHLHQTAHADEFDCPSELQHTQELFPQWHLPIKIAAI
IASLT

FLYTLLREVIHPLATSHQQYFYKIPILVINKVLPMVSITLLALVYLPGVIAAIVQLH
NGT
KYKKFPHWLDKWMLTRKQFG/SQEP
E12 1
TAARRRQKGGEKPFEC'AAA'QCSYVASNQHEVTRHARQVHNGPKPLNCP'AAA'C
DCKQ
'AAA'DRS'AAA'FK'AAA'HV'AAA'/SQEP

=> s e4
1 TAARLKALGDELHQR/SQEP
95285 SQL=15
L15 1 (TAARLKALGDELHQR)/SQEP
(TAARLKALGDELHQR/SQEP AND SQL=15)

=> e ledlqvafra/sqep
E1 1 LEDLLMGTLGIVCPICSQK/SQEP
E2 2
LEDLQAKILGIPYKNNDLSMFVLLPNDIDGLEKVNAYTSLFFLSFPKAFCLRASE/S
QEP
E3 0 --> LEDLQVAFRA/SQEP
E4 1 LEDLRLSLE/SQEP
E5 1
LEDLVEAELKQFTRQLWIGVKPGVEPIPRGKLENKDRQDVVDSMVQQYSEDAGT
ITVQTL
RKIKQNFRAKRLES/SQEP
E6 1 LEDLYRLKAIYEKKK/SQEP
E7 1 LEDMFPNKVRAHMKFN'AAA-
AAA'LAHEI'AAA'AGADLLALTSRFEPCGLIQLQGMRY
GIPPMCATTGGLADTVI/SQEP
E8 1
LEDMLYAASSIKSNYLVFMAELFWWFEVVKPSFVQPRVVRPQGAEPVKDMPSIP
VLNAAK
RNVLDSSSDFPSSGEGATFTQSHLE/SQEP
E9 1 LEDMPVDPDNEAYE/SQEP
E10 1 LEDMSVMVL/SQEP
E11 1 LEDMSVMVLR/SQEP
E12 1 LEDMSVMVLRTQGPA/SQEP

=> e hitvdelrr/sqep
E1 1
HITTPTSASDKRSKDKVFEVLNRCGKKVEDVTRKAEALAGGLKDHLKFSPSIGD
AAMARL

SQGTKMIVEGGPERVFQREFGVLAAEKLLDSFVCYISTTWGPVTGVIYISNRRIAF
CSDY
AIRLPSSVGGNGVAAYYKVVMEWEKIRSIS/SQEP
E2 2
HITTSTIIMSKVKLTKESIVALLTQGKDLEFEEDQNLVAFNFKTFCLENLDQIKKM
SVIS

CLTFLKNRQSIMKVIKQSDFTFGKITIKKTSDRIGATDMTFRRLDSLIRVRLVEETG
NSE

NLNTIKSKIASHPLIQAYGLPLDDAKSVRLAIMLGGSLPLIASVDSFEMISVVLAIY
QDA
KYKDLGIDPKKYDTKEALGK/SQEP
E3 0 --> HITVDELRR/SQEP
E4 1
HITVKSLLVPMDDPPKKKKKKKKKKKKKKKKKKGGGFKKNLWGGQKLTGEKKK
IFFFLKGG
KKKPLGIF/SQEP
E5 1 HITVYMKDVKVSL/SQEP
E6 1 HITWAV/SQEP
E7 1 HITWDQLWDIMN/SQEP
E8 1 HITWDQLWNLMN/SQEP
E9 1 HITWDQLWNVMLRRASLG/SQEP
E10 1 HITWDQLWNVMN/SQEP
E11 1 HITWDQLWRIMT/SQEP
E12 1 HITWEQLWDLMN/SQEP

=> e gqplpqeeld/sqep
E1 1
GQPLPAALFFYQWHLHFKELLAHPWGKTVWRFL'AAA'PLKKEGPHDPAIPLLDI
YPKNK
KW/SQEP
E2 1 GQPLPETLQLAVQGKRTLPGLQQQQQQQQQQQQ/SQEP
E3 0 --> GQPLPQEELD/SQEP
E4 1 GQPLVFT/SQEP
E5 1 GQPLVLSAMKMETVVTSPVTE/SQEP
E6 2 GQPM/SQEP
E7 10 GQPMY/SQEP
E8 1 GQPMYGQPMY/SQEP
E9 1 GQPNDPGVY/SQEP
E10 2
GQPNPGGSAPQWPAGYARRPAQRRGGRQESPVVRRGVAGVEQPARGNRWSSTP
/SQEP
E11 1 GQPPGAALCHGRGRCDCGVCICHVTEPGMFFGPLC/SQEP

E12 1
GQPPKNHPLLKAANDAVIDLPTPANISIWWNFGSLLGLCLAAQILTGLFLAMHYT
SDIAT

AFSSVTHICRDVNYGWLIRNMHANGASFFFICIYLHIGRGLYYGSFLHKETWNVG
VILLL

LVMMTAFVGYVLPWGQMSLWGATVITNLLSAFPYVGDALVQWIWGGFSVDNA
TLTRFFAF
HFLFPFVIVAMTLVHLIFLH/SQEP

=> e amireadvdqd/sqep
E1 1 AMIPPPQSSVRKPRYVRRERPLDRATDPAAFPGEARISNV/SQEP
E2 1
AMIQTRDLQGGRAFGLLKAQQD'AAA'RLDEICTQLLDDLKYSNDEDLPSRLEGF
KEKYM

EFDLIGNGHIDIMYLKLMLYKLAVPQTDLQLPRSIGEVYSGSGETISYPDFLM/SQ
EP
E3 0 --> AMIREADVDQD/SQEP
E4 2
AMISIGFLG'AAA'IVRAHHIFTVGID'AAA'DT'AAA'AYFTC'AAA'TII'AAA-AAA
'IPKRGQ'AAA'N/SQEP
E5 1
AMISIGFLGVIG'AAA'AHHIFTV'AAA'IDVNARAYCTSATIIIAIPTGGKVFS'AAA'

LATLHGSNMK'AAA'SAAVL'AAA'ALRFIFLFTVSGLTGIVLANSSLDIVLHDTYYV
RA
HFHYVLSIGAGFAIIGGFIH'AAA'FPLFSGYT/SQEP
E6 2
AMISIGILGFIVWAHHMFTVGLDVDTRAYFTAATMIIAIPTGVKVFSWLATLQGV
PFNMS

KAHPSIFWALGFIFLFTIGGLTGIVLSNSSLNVALHDTYYVTAHFHYVLSMGAVF
AIFAG
FTHWFSLFTGATLDRASALAHFFIMFIG/SQEP
E7 1
AMISIGILGFIVWAHHMFTVGMDVDTRAYFTAATMIIAVPTGIKIFSWLATIYGGS
PRLD

TPMLWAIGFVFLFTIGGLTGVILANSSLDIMLHDTYYVVAHFHYVLSMGAIFAIFG
GYYY
WFGKITGFSYNELYGKIHFWIM/SQEP
E8 1 AMISINIGIFNLIPIPALDGG/SQEP

E9 2
AMISKIWAARPTASGRPAMVILASERSWATPEMMASSMSDPFVMSVGSLTQVPG
LSENEE
RTCTGTSSRRAYSTQRRWRILAPQAAISSISS/SQEP
E10 1
AMISRRRFLQATAATIATSSGFGYMHYCLNSDAIALGIEQRPDLILLGGDYVLFD
MSLNS

SAYSDVLSPLAECAPTFACFGNHDRPVGTEKNHLIGETLKSAVITGMLNQATVIA
YANRP

FELVGTGDLWSGQCKSASASETNLSRLVLAHNSCSKEVMRDEPCDLMLGSHTH
RWQLSVP
MAGEPFCHVADERYVLGLNA/SQEP
E11 1 AMISSPPFRAICQEGK/SQEP
E12 1 AMISTPNENN/SQEP

=> e yeefarmlaq/sqep
E1 2 YEEEVLSR/SQEP
E2 1 YEEEW/SQEP
E3 0 --> YEEFARMLAQ/SQEP
E4 4 YEEFE/SQEP
E5 1 YEEFV/SQEP
E6 2 YEEFVQ/SQEP
E7 1 YEEFVQM/SQEP
E8 1 YEEFVQMM/SQEP
E9 2 YEEG/SQEP
E10 1 YEEGAAARDGRLWAGDQILEVNGVDLRNSSHEEAITALRQT/SQEP
E11 1 YEEGVAV/SQEP
E12 2 YEEH/SQEP

=> s l14 or l15
L16 3 L14 OR L15

=> file caplus
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TOTAL
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FILE LAST UPDATED: 6 May 2003 (20030506/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s l16
L17 3 L16

=> d l17 1-3 all

L17 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2003 ACS
AN 2003:112150 CAPLUS
DN 138:131969
TI Generation and initial analysis of more than 15,000 full-length human and mouse cDNA sequences
AU Strausberg, Robert L.; Feingold, Elise A.; Grouse, Lynette H.; Derge, Jeffery G.; Klausner, Richard D.; Collins, Francis S.; Wagner, Lukas; Shenmen, Carolyn M.; Schuler, Gregory D.; Altschul, Stephen F.; Zeeberg, Barry; Buetow, Kenneth H.; Schaefer, Carl F.; Bhat, Narayan K.; Hopkins, Ralph F.; Jordan, Heather; Moore, Troy; Max, Steve I.; Wang, Jun; Hsieh, Florence; Diatchenko, Luda; Marusina, Kate; Farmer, Andrew A.; Rubin, Gerald M.; Hong, Ling; Stapleton, Mark; Soares, M. Bento; Bonaldo, Maria F.; Casavant, Tom L.; Scheetz, Todd E.; Brownstein, Michael J.; Usdin, Ted B.; Toshiyuki, Shiraki; Carninci, Piero; Prange, Christa; Raha, Sam S.; Loquellano, Naomi A.; Peters, Garrick J.; Abramson, Rick D.; Mullahy, Sara J.; Bosak, Stephanie A.; McEwan, Paul J.; McKernan, Kevin J.; Malek, Joel A.; Gunaratne, Preethi H.; Richards, Stephen; Worley, Kim C.; Hale, Sarah; Garcia, Angela M.; Gay, Laura J.; Hulyk, Stephen W.; Villalon, Debbie K.; Muzny, Donna M.; Sodergren, Erica J.; Lu, Xiuhua; Gibbs, Richard A.; Fahey, Jessica; Helton, Erin; Ketteman, Mark; Madan, Anuradha; Rodrigues,

Stephanie; Sanchez, Amy; Whiting, Michelle; Madan, Anup; Young, Alice C.; Shevchenko, Yuriy; Bouffard, Gerard G.; Blakesley, Robert W.; Touchman, Jeffrey W.; Green, Eric D.; Dickson, Mark C.; Rodriguez, Alex C.; Grimwood, Jane; Schmutz, Jeremy; Myers, Richard M.; Butterfield, Yaron S. N.; Krzywinski, Martin I.; Skalska, Ursula; Smailus, Duane E.; Schnerch, Angelique; Schein, Jacqueline E.; Jones, Steven J. M.; Marra, Marco A.

CS National Cancer Institute, NIH, Bethesda, MD, 20892-2580, USA

SO Proceedings of the National Academy of Sciences of the United States of America (2002), 99(26), 16899-16903
CODEN: PNASA6; ISSN: 0027-8424

PB National Academy of Sciences

DT Journal

LA English

CC 3-3 (Biochemical Genetics)

484303-55-1 484303-57-3 484303-59-5
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(amino acid sequence; generation and initial anal. of more than 15,000 full-length human and mouse cDNA sequences)
(Biological study)
(nucleotide sequence; generation and initial anal. of more than 15,000 full-length human and mouse cDNA sequences)

L17 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2003 ACS

AN 2002:927597 CAPLUS

DN 138:20526

TI Protein and cDNA sequences of Bcl-2-modifying factor (Bmf) from human and mouse, and their uses in modulating apoptosis

IN Strasser, Andreas; Puthalakath, Hamsa; Villunger, Andreas; Coultas, Leigh; Beaumont, Jennifer; O'Reilly, Lorraine Ann; Huang, David Ching Siang

PA The Walter and Eliza Hall Institute of Medical Research, Australia

SO PCT Int. Appl., 98 pp.
CODEN: PIXXD2

DT Patent

LA English

IC ICM C12N015-12
ICS C07K014-435; C07K016-18; A61K038-17; A61K039-395; A61K048-00

CC 3-3 (Biochemical Genetics)
Section cross-reference(s): 1, 6, 13

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2002097094	A1	20021205	WO 2002-AU693	20020530

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,

LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRAI AU 2001-5351 A 20010530

AB The present invention provides protein and cDNA sequences of Bcl-2-modifying factors (Bmf) from human and mouse, that are capable of, inter alia, modulating apoptosis in mammalian cells. More particularly, the present invention relates to a novel member of the Bcl-2 family of proteins, referred to herein as "Bmf", and to genetic sequences encoding same and to regulatory sequences such as a promoter sequence directing expression of Bmf. Bmf comprises a BH3 domain which facilitates interaction to pro-survival Bcl-2 family members thereby triggering apoptosis. Bmf is regarded, therefore, as a BH3-only mol. The mols. of the present invention are useful, for example, in therapy, diagnosis, antibody generation and as a screening tool for therapeutic agents capable of modulating physiol. cell death or survival and/or modulating cell cycle entry. The present invention further contemplates genetically modified animals in which one or both alleles of Bmf are mutated or partially or wholly deleted alone or in combination with a mutation in one or both alleles of another Bcl-2-type mol. such as but not limited to Bim. The genetically modified animals are useful inter alia in screening for agents which ameliorate the symptoms of diseases caused by defects in apoptosis or which specifically promote apoptosis of target cells.

ST sequence Bcl2 modifying factor human mouse apoptosis

IT Proteins

RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(Bcl-2-modifying factor; protein and cDNA sequences of Bcl-2-modifying factor (Bmf) from human and mouse, and their uses in modulating apoptosis)

IT Gene, animal

RL: BSU (Biological study, unclassified); BIOL (Biological study)

(Bcl-2; protein and cDNA sequences of Bcl-2-modifying factor (Bmf) from human and mouse, and their uses in modulating apoptosis)

IT Proteins

RL: BSU (Biological study, unclassified); BIOL (Biological study)

(Blk, Bad, Bik, Hrk, Bid, Bim, Noxa, Puma; protein and cDNA sequences of Bcl-2-modifying factor (Bmf) from human and mouse, and their uses in modulating apoptosis)

IT Gene, animal

RL: BSU (Biological study, unclassified); PRP (Properties); THU

(Therapeutic use); BIOL (Biological study); USES (Uses)
(Bmf; protein and cDNA sequences of Bcl-2-modifying factor (Bmf) from human and mouse, and their uses in modulating apoptosis)
IT Immunoassay
(for detecting Bmf; protein and cDNA sequences of Bcl-2-modifying factor (Bmf) from human and mouse, and their uses in modulating apoptosis)
IT Dyneins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(light chain; protein and cDNA sequences of Bcl-2-modifying factor (Bmf) from human and mouse, and their uses in modulating apoptosis)
IT Apoptosis
(modulating; protein and cDNA sequences of Bcl-2-modifying factor (Bmf) from human and mouse, and their uses in modulating apoptosis)
IT Antibodies
RL: ARU (Analytical role, unclassified); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study)
(monoclonal, to Bmf; protein and cDNA sequences of Bcl-2-modifying factor (Bmf) from human and mouse, and their uses in modulating apoptosis)
IT Gene therapy
Human
Molecular cloning
Mouse
Mutation
Protein sequences
cDNA sequences
(protein and cDNA sequences of Bcl-2-modifying factor (Bmf) from human and mouse, and their uses in modulating apoptosis)
IT Drugs
(relates to Bmf; protein and cDNA sequences of Bcl-2-modifying factor (Bmf) from human and mouse, and their uses in modulating apoptosis)
IT Embryo, animal
(stem cell; protein and cDNA sequences of Bcl-2-modifying factor (Bmf) from human and mouse, and their uses in modulating apoptosis)
IT Antibodies
RL: ARU (Analytical role, unclassified); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study)
(to Bmf; protein and cDNA sequences of Bcl-2-modifying factor (Bmf) from human and mouse, and their uses in modulating apoptosis)
IT Animal
Rat
Swine
(transgenic; protein and cDNA sequences of Bcl-2-modifying factor (Bmf) from human and mouse, and their uses in modulating apoptosis)
IT 477911-67-4P, Bcl-2-modifying factor (mouse) 477911-71-0P,

Bcl-2-modifying factor (human)
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(amino acid sequence; protein and cDNA sequences of Bcl-2-modifying factor (Bmf) from human and mouse, and their uses in modulating apoptosis)
IT 477911-66-3 477911-68-5 477911-69-6 477911-70-9
RL: BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(nucleotide sequence; protein and cDNA sequences of Bcl-2-modifying factor (Bmf) from human and mouse, and their uses in modulating apoptosis)
IT 477841-11-5 477841-12-6
RL: BSU (Biological study, unclassified); BUU (Biological use, unclassified); PRP (Properties); BIOL (Biological study); USES (Uses)
(protein and cDNA sequences of Bcl-2-modifying factor (Bmf) from human and mouse, and their uses in modulating apoptosis)
IT 477916-47-5, 7: PN: WO02097094 SEQID: 9 unclaimed DNA 477916-48-6 477916-49-7 477916-50-0 477916-51-1 477916-52-2 477916-53-3 477916-54-4
RL: PRP (Properties)
(unclaimed nucleotide sequence; protein and cDNA sequences of Bcl-2-modifying factor (Bmf) from human and mouse, and their uses in modulating apoptosis)
IT 477916-55-5
RL: PRP (Properties)
(unclaimed protein sequence; protein and cDNA sequences of Bcl-2-modifying factor (Bmf) from human and mouse, and their uses in modulating apoptosis)
IT 185009-18-1 185009-21-6 185009-24-9 477841-13-7 477841-14-8 477841-15-9 477841-16-0 477841-17-1
RL: PRP (Properties)
(unclaimed sequence; protein and cDNA sequences of Bcl-2-modifying factor (Bmf) from human and mouse, and their uses in modulating apoptosis)
RE.CNT 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Puthalakath, H; Science 2001, V293(5536), P1829 CAPLUS

L17 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2003 ACS
AN 2000:707297 CAPLUS
DN 133:291966
TI Nucleic acids including human open reading frames encoding ORFX polypeptides

IN Shimkets, Richard A.; Leach, Martin
PA Curagen Corporation, USA
SO PCT Int. Appl., 5509 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C12N015-12
ICS C07K014-47; C07K016-18; G01N033-566; C12Q001-68; C12N015-11; C12N015-62; A01K067-027; A61K038-00
CC 3-3 (Biochemical Genetics)
Section cross-reference(s): 1, 6, 13, 14
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2000058473	A2	20001005	WO 2000-US8621	20000331
WO 2000058473	A3	20010125		

W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

AU 2000037745	A5	20001016	AU 2000-37745	20000331
EP 1165784	A2	20020102	EP 2000-916677	20000331

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO

PRAI US 1999-127607P P 19990331
US 1999-127636P P 19990402
US 1999-127728P P 19990405
US 2000-540763 A2 20000330
WO 2000-US8621 W 20000331

AB The present invention provides 3161 different human open reading frames ORFX, encoding isolated polypeptides, as well as polynucleotides encoding ORFX and antibodies that immunospecifically bind to ORFX or any deriv., variant, mutant, or fragment of the ORFX polypeptides, polynucleotides or antibodies. The invention addnl. provides methods in which the ORFX polypeptide, polynucleotide and antibody are used in detection and treatment of a broad range of pathol. states, as well as to other uses.

ST ORFX protein cDNA sequence human; open reading frame protein cDNA sequence human

IT Proteins, specific or class
RL: BOC (Biological occurrence); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use);

BIOL (Biological study); OCCU (Occurrence); PREP (Preparation); USES (Uses)
(ORF X; nucleic acids including human open reading frames encoding ORFX polypeptides)
IT Animal tissue
(ORFX expression specificity; nucleic acids including human open reading frames encoding ORFX polypeptides)
IT Immunoassay
Nucleic acid amplification (method)
Nucleic acid hybridization
(detection by; nucleic acids including human open reading frames encoding ORFX polypeptides)
IT Disease, animal
(diagnosis and treatment of ORFX-assocd.; nucleic acids including human open reading frames encoding ORFX polypeptides)
IT Diagnosis
(genetic; nucleic acids including human open reading frames encoding ORFX polypeptides)
IT Drug screening
Drugs
Gene therapy
Molecular cloning
Protein sequences
Test kits
cDNA sequences
(nucleic acids including human open reading frames encoding ORFX polypeptides)
IT Gene, animal
RL: BOC (Biological occurrence); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation); USES (Uses)
(nucleic acids including human open reading frames encoding ORFX polypeptides)
IT Primers (nucleic acid)
Probes (nucleic acid)
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(nucleic acids including human open reading frames encoding ORFX polypeptides)
IT Antibodies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(nucleic acids including human open reading frames encoding ORFX polypeptides)
IT Antisense oligonucleotides
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(nucleic acids including human open reading frames encoding ORFX polypeptides)

IT Peptide nucleic acids
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(nucleic acids including human open reading frames encoding ORFX polypeptides)

IT Ribozymes
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(nucleic acids including human open reading frames encoding ORFX polypeptides)

IT Susceptibility (genetic)
(to ORFX-assocd. diseases; nucleic acids including human open reading frames encoding ORFX polypeptides)

IT Disease models
(transgene-contg. test animals; nucleic acids including human open reading frames encoding ORFX polypeptides)

IT 119938-85-1P 148847-20-5P, Phosphoprotein (human gene c-raf-1 reduced) 149148-23-2P 157010-86-1P 158380-01-9P 161351-21-9P, Growth/differentiation factor 9 (human) 176430-69-6P 179608-31-2P 194813-67-7P 199129-30-1P, RNA-binding protein A18 (human) 199302-93-7P, Protein (human brain gene hCPE-R) 203673-69-2P 210819-07-1P 211557-12-9P, Protein (human clone KIAA0709 reduced) 213468-10-1P 214773-95-2P 217795-43-2P, Protein (human clone HP10230) 219903-09-0P 221184-54-9P 221219-64-3P 221269-44-9P, Desaturase, linoleate (human) 221456-23-1P 221546-49-2P 222619-69-4P 222963-62-4P, Protein (human brain gene KIAA0867) 222963-63-5P 222964-17-2P 222964-25-2P, Protein (human brain gene KIAA0914) 223117-14-4P, Protein (human brain clone OMB108) 223381-46-2P, Protein (human gene MASL1) 225929-50-0P, Protein (human pancreas gene TSA305) 226218-08-2P 226888-56-8P 226888-60-4P, KIAA0936 protein (human clone hh04647) 226889-15-2P 226890-15-9P, KIAA0977 protein (human clone